

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 9064 (1979): Copper Hammers [PGD 6: Earth, Metal And Wood Working Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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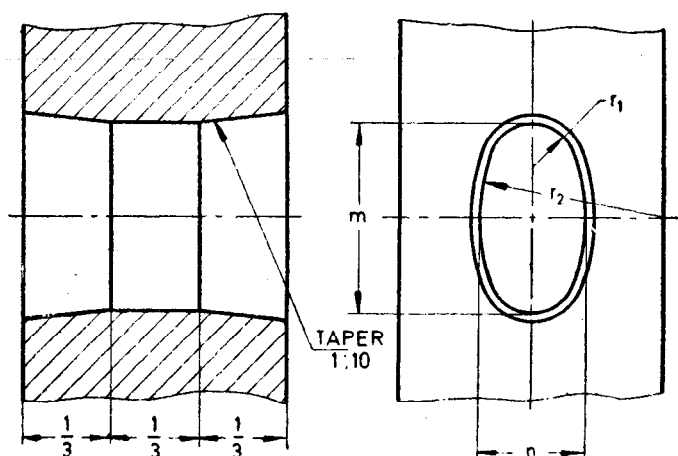




Indian Standard

SPECIFICATION FOR
COPPER HAMMERS

200001/1 2-2

1. Scope — Covers requirements for copper hammers.**2. Dimensions****2.1 Eye**

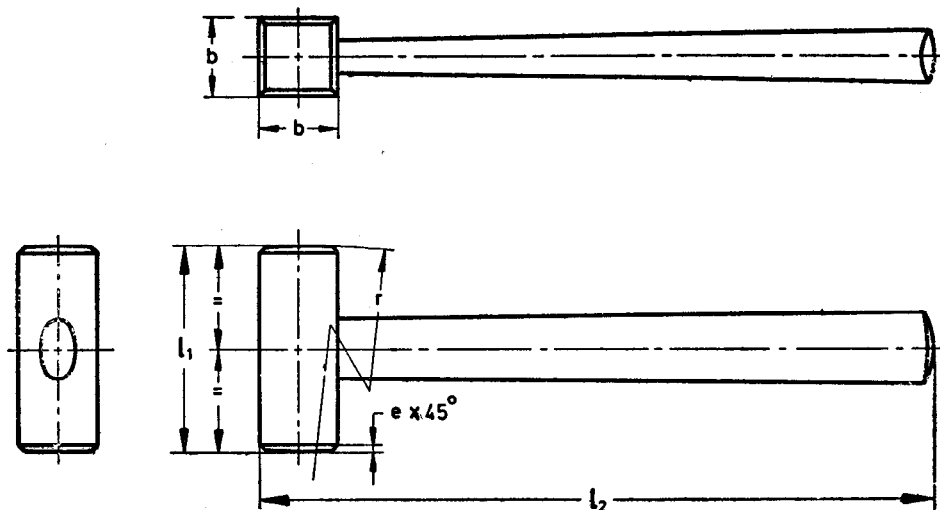
All dimensions in millimetres.

Sizes $m \times n$	Tolerances		r_1	r_2
	m	n		
18.0 × 10.0	± 0.3	± 0.2	4.1	18.0
22.4 × 12.5	± 0.3	± 0.2	5.2	22.4
25.0 × 14.0	± 0.4	± 0.2	5.8	25.0
30.0 × 17.0	± 0.5	± 0.3	7.1	30.0
31.5 × 18.0	± 0.5	± 0.3	7.6	31.5
35.5 × 20.0	± 0.5	± 0.3	8.3	35.5

Adopted 23 February 1979

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2.2 Hammers



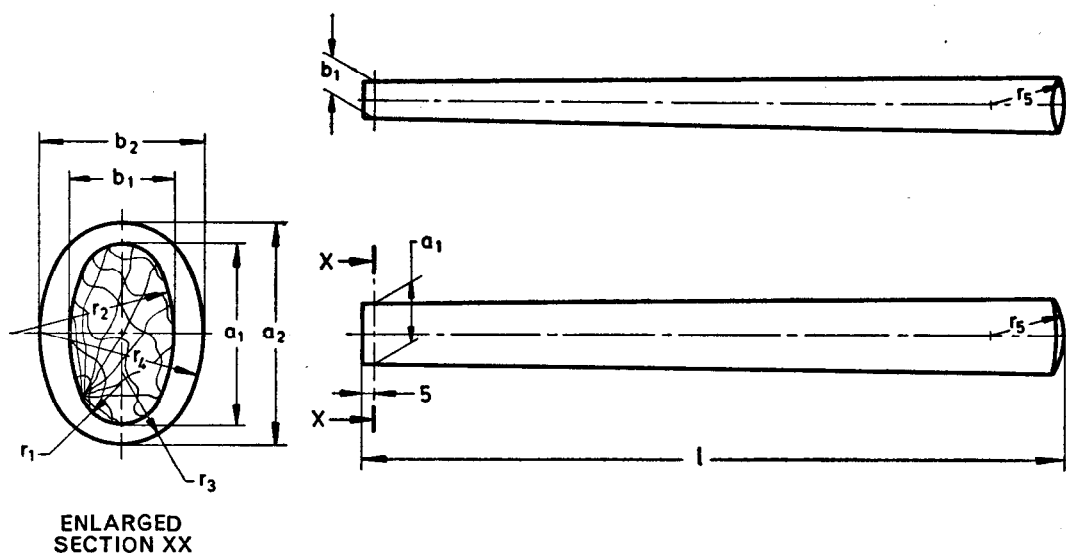
All dimensions in millimetres.

Nominal Mass		b Approx	e Approx	l ₁ Approx	l ₂ Approx	r Approx	Eye Sizes*
g	Tolerance g						
250	± 13	22	1.0	68	280	200	18.0 × 10.0
500	± 25	28	1.5	88	310	300	22.4 × 12.5
800	± 40	32	1.5	94	320	300	25.0 × 14.0
1 000	± 50	35	1.5	96	320	300	25.0 × 14.0
1 500	± 75	42	2.0	110	360	500	30.0 × 17.0
2 000	± 100	50	2.0	115	380	500	31.5 × 18.0
2 500	± 125	50	2.0	140	400	500	35.5 × 20.0

Note — The mass of the hammers given in col 1 does not include mass of the handle.

*See 2.1.

2.3 Handles



All dimensions in millimetres.

l	a_1		a_2	b_1		b_2	r_1	r_2	r_3	r_4	Eye Sizes*
280 ± 8	18.7	$+0.9$ -0.6	25	10.7	$+0.5$ -0.3	19	4.3	17	8.5	17	18.0×10.0
310 ± 9	23.3	$+0.9$ -0.5	30	13.4	$+0.7$ -0.4	21	5.4	21	8.7	21	22.4×12.5
320 ± 10	25.9	$+1$ -0.5	33	14.9	$+0.7$ -0.4	23	6.1	24	9.3	22	25.0×14.0
360 ± 11	31.2	$+1.3$ -0.6	38	18.2	$+0.9$ -0.5	28	7.3	27.5	12.5	27.5	30.0×17.0
380 ± 11	32.9	$+1.3$ -0.7	39	19.4	$+1$ -0.6	29	7.7	28.0	13.1	28.0	31.5×18.0
400 ± 12	37.1	$+1.5$ -0.7	40	21.6	$+0.9$ -0.4	30	8.9	34.0	13.7	30.0	35.5×20.0

Note — The values of r_5 shall be equal to the values of a_2 .

*See 2.1.

2.4 With reference to dimensions b (see 2.2), the longitudinal axis of the eye shall coincide with the centre axis of the hammer as per class of deviation 'extra coarse' of IS : 2102-1969 'Allowable deviations for dimensions without specified tolerances (first revision)'.

2.5 The illustrations are diagrammatic only and are not intended to illustrate the details of design.

3. Material

3.1 Hammer Heads — Shall conform to Grade FRTP (fine-refined tough pitch) or DHP [phosphorised, high residue phosphorous (nonarsenical)] of IS : 191-1967 'Specification for copper (second revision)', meeting the requirements laid down in 4 and 7.

3.2 Handles — Shall conform to class 3 of IS : 620-1975 'Specification for general requirements for wooden tool handles (third revision)'.

4. Hardness — 60 HV Min 10* (≈ 57 HB Min 5/250/30†).

*See IS : 2866-1965 Methods for Vickers hardness test for copper and copper alloys.

†See IS : 3054-1965 Methods for Brinell hardness test for copper and copper alloys.

5. Requirements

5.1 The handles shall conform to class 3 of IS : 620-1975.

5.2 The handles shall be perpendicular to the centre axis of the hammer head with a tolerance of 8 mm over 350 mm length.

5.3 The handles shall be properly wedged.

5.4 The hammers may also be supplied without handles subject to agreement between the purchaser and the supplier.

6. Manufacture, Workmanship and Finish

6.1 The hammer heads shall either be made from rolled material or forged so as to obtain the required hardness as given in 4.

6.2 The hammer heads shall be well shaped and free from burrs, cracks, roughness and other defects. The sharp edges of the eye shall be suitably chamfered.

6.3 The hammer heads shall be given suitable protective coatings and shall be finished smooth and bright all over.

7. **Test** — The hammer heads shall be fitted with handles and shall be struck ten times with full blows from a height of 350 mm on to a mild steel block of 150×150×13 mm. They shall not show any damage, cracks, split or other defects at the end of this test.

8. **Sampling** — Unless otherwise agreed to between the supplier and the purchaser, the procedure given in IS : 2500 (Part I)-1973 'Sampling inspection tables: Part I Inspection by attributes and by count of defects (*first revision*)' shall be followed for sampling inspection. For various characteristics the sampling plan as given in 8.1 and 8.2 shall be followed.

8.1 For inspection for dimensions and workmanship and finish the sampling plan with inspection level III and acceptable quality level (AQL) 2.5 percent given in Tables 1 and 2 of IS : 2500 (Part I)-1973 shall be followed.

8.2 For harden and tests, the sampling plan with inspection level I and acceptable quality level (AQL) 2.5 percent given in Tables 1 and 2 of IS : 2500 (Part I)-1973 shall be followed.

9. Designation

9.1 A hammer of nominal mass 800 g when supplied without handle shall be designated as:

Copper Hammer 800 IS : 9064

9.2 A hammer of nominal mass 500 g when supplied with handle shall be designated as:

Copper Hammer H 500 IS : 9064

10. **Marking** — The hammer shall be marked with mass, manufacturer's name, initials and/or recognised trade-mark.

10.1 **ISI Certification Marking** — Details available with the Indian Standards Institution.

EXPLANATORY NOTE

While preparing this standard, assistance has been derived from DIN 1195-1966 Eye dimensions for hammers and forging tools, DIN 5111-1968 Shafts for hammers up to 2 kg and DIN 5130-1974 Kupferhammer (copper hammers) issued by (DIN) Deutsches Institut für Normung. The details of test has been based on Document IND/GS/1290, issued by CIGS, Kanpur.